

VIRAL MENINGITIS

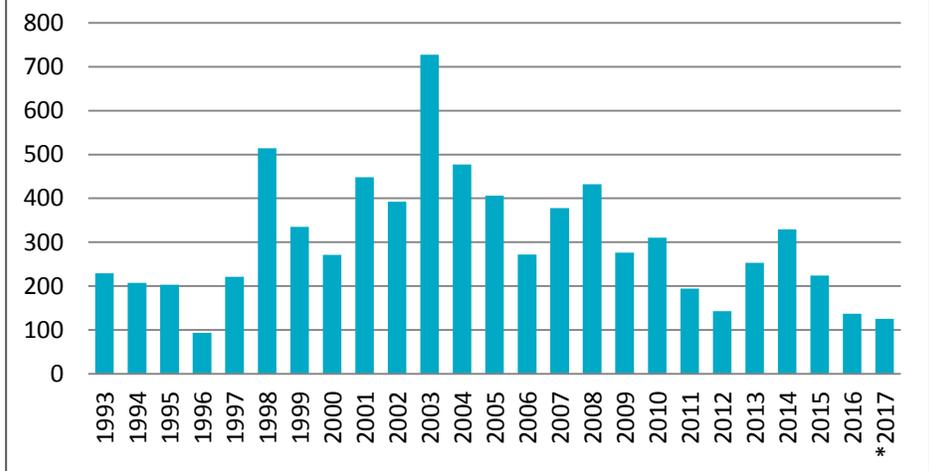
Meningitis is an inflammation of the protective membranes around the brain and spinal cord. Although meningitis can be caused by bacteria, fungi, parasites, and non-infectious causes, viral meningitis is the most common.

Frequent symptoms of viral meningitis include fever, headache, stiff neck, light sensitivity, and lethargy. While initial presentation may be similar to bacterial meningitis, viral meningitis is usually less severe, and unlike bacterial meningitis, neither antibiotic treatment nor antibiotic prophylaxis for contacts is indicated. Most people with viral meningitis recover with supportive care; anti-viral medications may be useful for some etiologies.

Viral meningitis is often clinically diagnosed based on symptoms, cerebral spinal fluid (CSF) profile, and absence of bacterial or fungal growth in the CSF. Non-polio enteroviruses and herpesviruses are the most common causes of viral meningitis. These viruses spread person-to-person, but very few of those infected will develop meningitis. In 2016, over half of the 137 viral meningitis cases reported in San Diego County were caused by these viruses. The etiology was unidentified for the remaining cases. Cases caused by arboviruses (e.g., West Nile virus), another important cause of viral meningitis, are counted separately in San Diego County and are not included in this report.

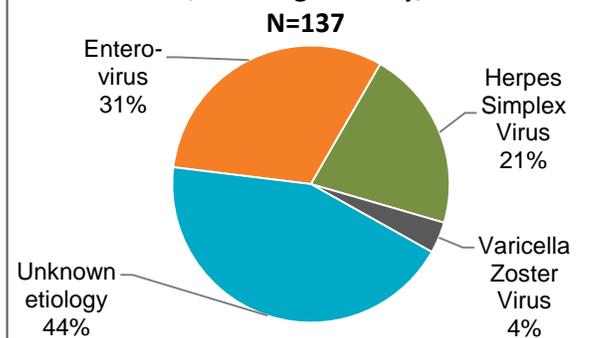
Any type of viral meningitis is [reportable in California](#), but only specific types (e.g., arboviral) are reportable nationally. Analysis of [hospitalization data](#) suggests that there are more than 35,000 hospitalizations related to viral meningitis in the United States each year. Enteroviruses, particularly echoviruses, have often been associated with outbreaks of viral meningitis. Many states, including California, experienced [large outbreaks in 2003](#). Cases, and outbreaks, are more common during the summer and fall when enteroviruses tend to circulate. This fall, there have been several reports of clusters of viral meningitis in California, including [Lassen](#), [El Dorado](#), and [San Diego](#) Counties.

Figure 1. Reported Viral (Aseptic) Meningitis Cases, San Diego County, 1993-2017*



*2017 data are year-to-date; current as of 11/15/2017. Includes confirmed cases based on provider report (1993-2014) and confirmed, probable, and suspect cases following California Department of Public Health reporting recommendations (2015-2017). Counts do not include meningitis cases known to be caused by infections that are separately reportable (e.g., West Nile virus). Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease years.

Figure 2. Etiology of Viral Meningitis Cases, San Diego County, 2016



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Resources

- [Centers for Disease Control and Prevention \(CDC\) Viral Meningitis website](#)
- [National Institute of Neurological Disorders and Stroke Meningitis and Encephalitis Information Page](#)
- [California Department of Public Health \(CDPH\) Viral Meningitis Fact Sheet](#)

The Monthly Communicable Disease Surveillance Report is a publication of the County of San Diego Public Health Services Epidemiology and Immunization Services Branch (EISB). EISB works to identify, investigate, register, and evaluate communicable, reportable, and emerging diseases and conditions to protect the health of the community. The purpose of this report is to present trends in communicable disease in San Diego County. To subscribe to this report, send an email to EpiDiv.HHSA@sdcounty.ca.gov.

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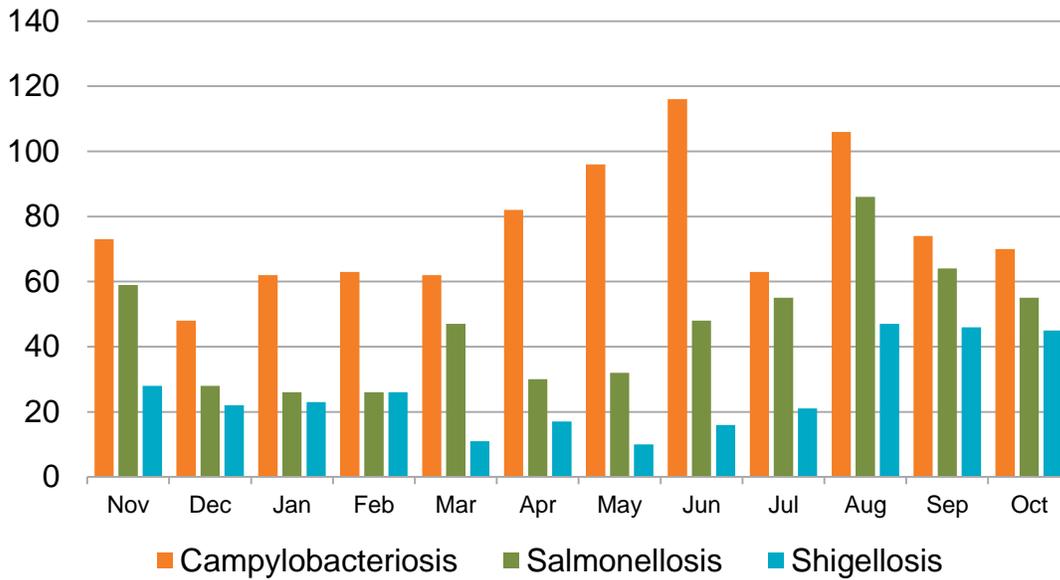


Table 1. Select Reportable Diseases		2017			Prior Years		
		Current Month	Prior Month	Year-to-Date (YTD)	2016 YTD	Avg YTD, 2014-2016	2016 Total
Disease and Case Inclusion Criteria (C,P,S)							
Amebiasis	C	1	0	9	4	30.3	5
Botulism (Foodborne, Infant, Wound, Other)	C	0	1	4	4	1.7	5
Brucellosis	C	0	0	4	4	1.7	4
Campylobacteriosis	C	70	74	794	667	639.3	787
Chickenpox, Hospitalization or Death	C,P	0	1	2	2	1.7	3
Chikungunya	C,P	0	0	2	5	5.0	6
Coccidioidomycosis	C,P	20	29	183	132	123.0	158
Cryptosporidiosis	C,P	8	3	45	29	26.7	35
Dengue Virus Infection	C	1	0	11	19	11.3	23
Encephalitis, All	C,P	1	1	27	63	60.0	71
Giardiasis	C,P	22	16	275	296	249.7	398
Hepatitis A, Acute	C	33	83	548	20	16.0	26
Hepatitis B, Acute	C,P	0	2	11	3	7.7	3
Hepatitis B, Chronic	C	72	82	736	718	746.7	865
Hepatitis C, Acute	C,P	0	0	3	0	0.3	1
Hepatitis C, Chronic	C,P	324	326	2520	2219	2334.7	2581
Legionellosis	C	2	2	40	43	39.3	53
Listeriosis	C,P	1	1	14	19	14.0	22
Lyme Disease	C	0	0	4	10	10.7	10
Malaria	C	1	1	5	9	7.3	12
Measles (Rubeola)	C,P	0	0	2	0	4.0	0
Meningitis, Aseptic/Viral	C	19	14	125	120	201.0	140
Meningitis, Bacterial	C	0	0	20	45	29.7	54
Meningitis, Other/Unknown	C,P,S	1	1	19	28	32.0	29
Meningococcal Infection	C,P	0	0	1	2	4.3	2
Mumps	C,P	2	0	14	20	7.3	23
Pertussis	C,P,S	79	66	877	314	960.7	412
Rabies, Animal	C	1	2	15	7	6.3	7
Rocky Mountain Spotted Fever	C,P	1	0	3	2	2.3	2
Salmonellosis (Non-Typhoid/Non-Paratyphoid)	C,P	55	64	469	448	476.3	535
Shiga toxin-Positive Feces (without culture confirmation)	C,P	2	2	18	15	8.3	15
Shiga toxin-Producing E. coli (including O157)	C,P	2	2	28	44	39.3	60
Shigellosis	C,P	45	46	262	194	173.7	243
Typhoid Fever	C,P	0	0	2	2	3.7	6
Vibriosis	C,P	0	5	40	29	33.3	30
West Nile Virus Infection	C,P	1	0	2	22	26.0	22
Yersiniosis	C,P	0	3	47	9	10.7	15
Zika Virus	C,P	0	2	13	73	25.0	83

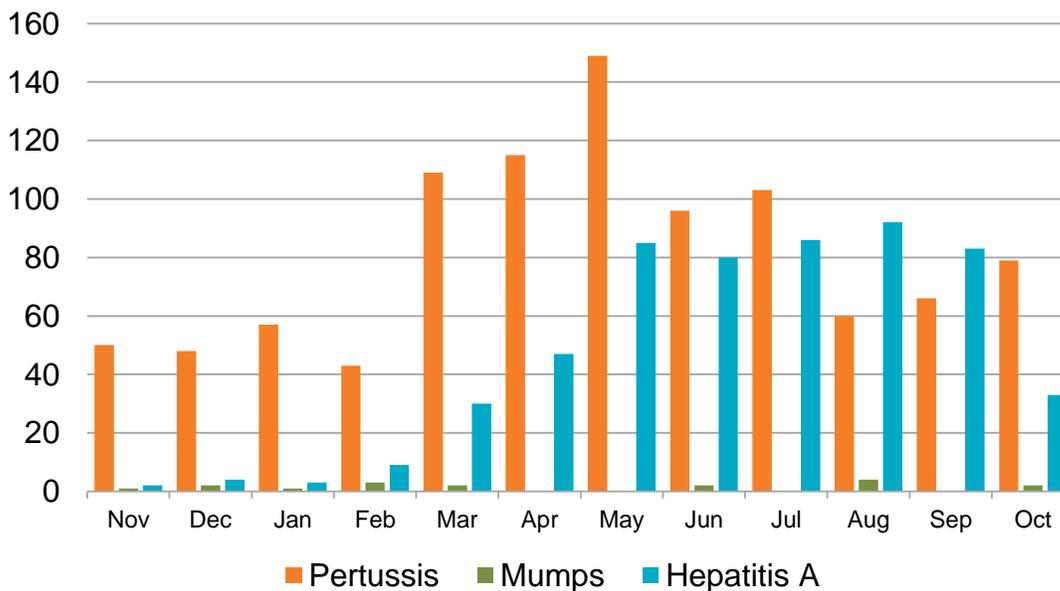
Case counts are provisional and subject to change as additional information becomes available. Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously or subsequently reported counts due to differences in inclusion or grouping criteria, late reporting, or updated case information. Inclusion criteria (C,P,S = Confirmed, Probable, Suspect) based on Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CSTE/CDC) surveillance case criteria.



**Figure 3. Select Enteric Infections by Month
November 2016 – October 2017**

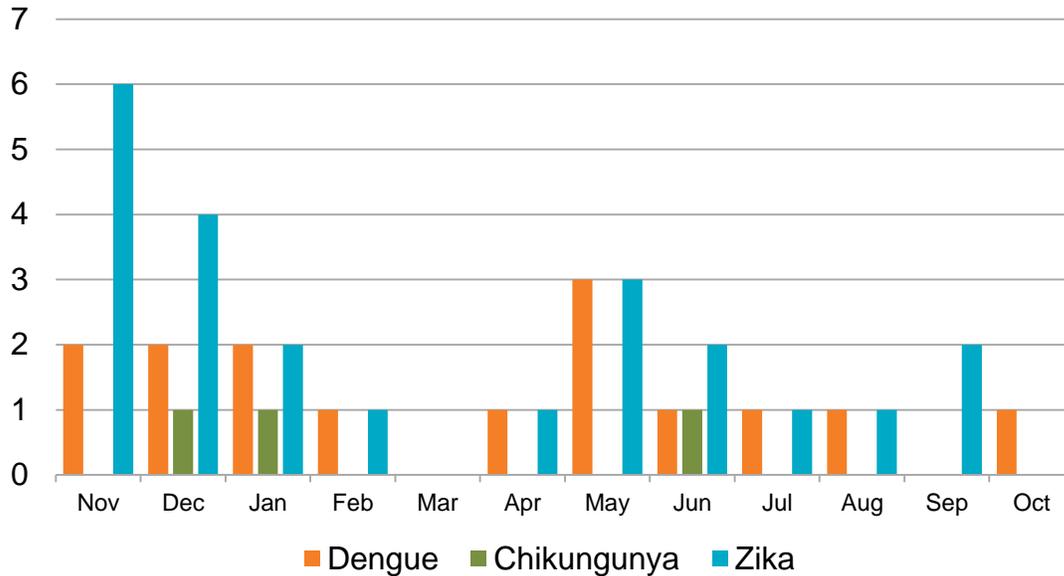


**Figure 4. Select Vaccine-Preventable Infections by Month
November 2016 – October 2017**



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**Figure 5. Select Vector-Borne Infections by Month
November 2016 – October 2017**



All of these dengue, chikungunya, and Zika virus cases are travel-associated. For additional information on Zika cases, see the [HHS Agency Zika Virus webpage](#). **Case counts are provisional and subject to change as additional information becomes available.** Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously or subsequently reported counts due to differences in inclusion or grouping criteria, late reporting, or updated case information. Inclusion criteria (C,P,S = Confirmed, Probable, Suspect) based on Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CSTE/CDC) surveillance case criteria.

Disease Reporting in San Diego County

San Diego County communicable disease surveillance is a collaborative effort among Public Health Services, hospitals, medical providers, laboratories, and the [San Diego Health Connect](#) Health Information Exchange (HIE). The data presented in this report are the result of those efforts.

Reporting is crucial for disease surveillance and detection of disease outbreaks. Under the California Code of Regulations, Title 17 (Sections [2500](#), [2505](#), and [2508](#)), public health professionals, medical providers, laboratories, schools, and others are mandated to report more than 80 diseases or conditions to San Diego County Health and Human Services Agency.

To report a communicable disease, contact the Epidemiology Program by phone at (619) 692-8499 or download and print a Confidential Morbidity Report form and fax it to (858) 715-6458. For urgent matters on evenings, weekends or holidays, dial (858) 565-5255 and ask for the Epidemiology Program duty officer. For more information, including a complete list of reportable diseases and conditions in California, visit the Epidemiology Program website, www.sdepi.org.

Tuberculosis, sexually transmitted infections, and HIV disease are covered by other programs within Public Health Services. For information about reporting and data related to these conditions, search for the relevant program on the Public Health Services website, <http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs.html>.